AMENDMENTS TO THE CLAIMS:

The following listing of claims supersedes all prior versions and listings of claims in this application:

1-38. (Cancelled)

39. (Currently Amended) An adaptive overload control method for <u>a</u> <u>communications network comprising</u> ~~controlling the amount of traffic offered by~~ a plurality of network access points <u>and one or more</u> ~~to a~~ network access controller<u>s,</u> <u>wherein access to the communications network via</u> ~~for processing,~~ the plurality of network access points <u>is controlled by said one or more</u> ~~being arranged under the control of the~~ network access controller<u>s</u> ~~to provide said traffic with access to a communications network~~, the method comprising:

<u>offering traffic to a said network access controller via a plurality of said network access points;</u>

<u>said network access controller</u> determining if an overload condition exists<u>;</u> ~~at the network access controller; and, if so, the network access controller externally controlling the amount of traffic which it processes and regulating the rate of traffic offered by said plurality of network access points, by:~~

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the network access point generating ~~at least one~~ global constraint information comprising a per-line gap interval and an estimate of the current rate per line at which traffic is admitted to the communications network, derived from said aggregate offered traffic rate, to restrict the rate at which ~~a network access point admits said~~ traffic is admitted to the communications network via said plurality of network access points;

communicating said ~~at least one~~ global ~~traffic~~ constraint information to each ~~one or more~~ of said plurality of network access points contributing to said aggregate traffic rate offered to the network access controller, and

at each respective network access point which receives said ~~at least one~~ global information responsive to said determination of said overload condition existing at the network access controller ~~traffic~~ constraint, ~~processing the received global traffic constraint to determine a plurality of local constraint conditions by:~~

~~determining a local gap interval (Δt) to be imposed on said traffic by said respective network access point, said local gap interval (Δt) being dependent on said global traffic constraint ;~~

processing the received global constraint information to generate a local call gap interval (Δt) dependent on the traffic rate and number of lines over which said respective network access point receives traffic seeking access to the communications network;

determining an initial local gap interval (Δt_0) for said respective network access point which <u>varies randomly in length between zero and</u> ~~differs from~~ said determined local <u>call</u> gap interval (Δt) ~~of the respective network access point~~; and

imposing said initial local gap interval (Δt_0) at each of said plurality of network access points without waiting for traffic to be received at the respective network access point[[,]]<u>; and</u>

<u>imposing subsequently one or more of said local call gap intervals (Δt) if</u> <u>said determined overload condition still exists at the network access controller,</u> <u>wherein each of the subsequent gap intervals is imposed by allowing a first call</u> <u>to be admitted and by then blocking all subsequent calls for the gap interval (Δt)</u> ~~wherein each initial local gap interval ($\Delta t0$) is determined independently by each~~ ~~of said plurality of network access points to be between zero and the respective local~~ ~~gap interval (Δt), and~~

~~wherein the initial gap interval varies in a random manner between said plurality~~ ~~of said network access points offering traffic to said network access controller~~.

40-41. (Cancelled)

42. (Previously Presented) A method as claimed in claim 39, wherein the network access controller analyzes the rate at which traffic is rejected by the network access controller to determine said at least one global traffic constraint.

43. (Previously Presented) A method as claimed in claim 39, wherein the network access controller determines if an overload condition exists at the network access controller from a reject rate comprising a rate at which the traffic offered by all of said plurality of network access points to said network access controller is rejected, and wherein said at least one global constraint is derived from the reject rate.

44. (Previously Presented) A method as claimed in claim 39, wherein the controller determines said at least one global traffic constraint by analyzing the rate at which off-hook messages are rejected by the access controller.

45-47. (Cancelled)

48. (Currently Amended) A method as claimed in claim 39, wherein in said step of communicating said ~~at least one~~ global ~~traffic~~ constraint information to one or more of said plurality of network access points, ~~at least one~~ said global ~~traffic~~ constraint information is multicast to one or more of said plurality of network access points.

49. (Previously Presented) A method as claimed in claim 39, wherein the initial gap interval (Δt_0) is determined at each network access point using a random or pseudo-random technique.

50. (Currently Amended) A method as claimed in claim 39, wherein the controller determines said ~~at least one~~ global ~~traffic~~ constraint <u>information</u> by analyzing the rate at which off-hook messages are rejected by the access controller and, wherein said communications network is a VoIP network, and said traffic comprises call-related traffic.

51. (Currently Amended) A method as claimed in claim 39, wherein the controller determines said ~~at least one~~ global ~~traffic~~ constraint <u>information</u> by analyzing the rate at which off-hook messages are rejected by the access controller, and wherein said network access controller is a Media Gateway Controller and each of said plurality of network access points comprises a Media Gateway.

52. (Previously Presented) A method as claimed in any claim 39, wherein a global traffic rate constraint is determined by said network access controller for an address.

53. (Cancelled)

54. (Previously Presented) A method as claimed in claim 39, wherein a dial-plan is implemented by a network access point to make it unnecessary to send an off-hook condition message to the network access controller when a local gap interval (Δt) constraint is being imposed.

55. (Previously Presented) A method as claimed in claim 39, wherein each network access point determines the initial gap interval (Δt_0) using a probabilistic method.

56. (Previously Presented) A method as claimed in claim 39, wherein the initial gap interval (Δt_0), if not zero, is determined by each network access point such that all of the network access points' initial gap intervals (Δt_0) are uniformly distributed in the range from zero to the local gap interval (Δt) determined by each network access point.

57. (Currently Amended) A method of controlling the number of calls received by a media gateway controller for admittance to a communications network, the media gateway controller being arranged to be connected to a plurality of media gateways,

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wherein traffic is admitted to the communications network via said media gateways

under the control of said media gateway controller, the method comprising:

determining at least one scalable call rate control parameter at the media

gateway controller, the at least one scalable call rate control parameter comprising a

per-line gap interval and an estimate of the current traffic rate per line at which traffic is

admitted to the communications network derived from the current aggregate rate at

which traffic is offered to the media gateway controller;

the media gateway controller multicasting the scalable rate control parameters to

each media gateway within the domain of control of the media gateway controller;

at each respective media gateway, receiving said scalable rate control

parameters, and:

scaling the call rate control parameter ~~at each media gateway~~ to

determine a scaled call rate control parameter at the respective media gateway,

wherein the scaled call rate control parameter comprises a call gap interval (Δt)

to be imposed by the respective media gateway on calls seeking admittance to

the communications network, wherein the call gap interval (Δt) is dependent on

the traffic rate and number of lines over which said respective media gateway

receives traffic seeking admittance to the communications network ~~destined for~~

~~the media gateway controller~~;

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~~the media gateway~~ imposing a predetermined initial local call gap interval (Δt_0) having a time duration <u>varying randomly</u> between zero and the time duration of the local call gap interval (Δt) <u>without waiting for a call to be received at the respective media gateway</u>; and

<u>imposing subsequently one or more of said local gap intervals (Δt) wherein each of the subsequent gap intervals is imposed by allowing a first call to be admitted and by then blocking all subsequent calls for the gap interval (Δt)</u>

~~the media gateway imposing said initial local call gap interval ($\Delta t0$) at each of said plurality of network access points without waiting for a call to be received at the respective network access point, and~~

~~wherein the initial gap interval varies in a random manner between said plurality of said network access points offering traffic to said network access controller.~~

58. (Previously Presented) A method as claimed in claim 57, wherein the initial local gap interval (Δt_0) is initially active for a finite sub-set of said plurality of media gateways.

59. (Previously Presented) A method as claimed in claim 57, wherein the initial gap interval (Δt_0) is determined using a random or pseudo-random technique.

60. (Previously Presented) A method as claimed in claim 57, wherein at least one of said scalable call rate control parameters is assigned to a predetermined called address.

61. (Previously Presented) A method as claimed in claim 57, wherein a dial-plan is imposed by the media gateway controller on the media gateway to determine the control treatment applied to at least part of a called address.

62. (Previously Presented) A method as claimed in claim 57, wherein the media gateway analyzes at least a portion of the called address prior to sending any call related indication to the media gateway controller.

63. (Previously Presented) A method as claimed in claim 57, wherein the media gateway does not send an off-hook signal to the media gateway controller until the media gateway has analyzed at least one digit of the called address.

64. (Previously Presented) A method as claimed in claim 57, wherein the media gateway controller sends a dial-plan to the media gateway in advance of the media gateway receiving a call from a user.

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65. (Previously Presented) A method as claimed in claim 57, wherein the media gateway controller indicates to the media gateway which dial-tone the media gateway should apply to the next call for a specific termination.

66. (Previously Presented) A method as claimed in claim 57, wherein the call gap interval (Δt) is imposed by the media gateway after the media gateway has analyzed the specific called address.

67. (Currently Amended) An adaptive overload control system <u>for a</u> <u>communications network, said system</u> comprising:

a communications network;

a plurality of network access points<u>; and</u>

<u>one or more network access controllers,</u>

<u>wherein each of said network access controllers is arranged to control a plurality</u> <u>of said</u> being arranged under the control of a network access <u>points</u> controller to provide traffic with access to said communications network,

wherein the network access controller controls the amount of traffic offered by the plurality of network access points to the network access controller for processing,

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the network access controller is arranged to control ~~determines if an overload condition exists at the network access controller; and, if so, the network access controller externally controls~~ the amount of traffic admitted to the communications network via said network access points which it processes by:

regulating the rate of traffic offered by said plurality of network access points to the network access controller by generating at least one global constraint to restrict the rate at which a network access point admits said traffic to the communications network, wherein said at least one global constraint comprises a per-line gap interval and an estimate of the current rate per line at which traffic is admitted to the communications network derived from the current aggregate rate at which traffic is offered to the network access controller by the network access points; ~~and~~

~~communicating~~ wherein the network access controller is further arranged to communicate said at least one global traffic constraint to one or more of said plurality of network access points[[,]];

wherein each respective one of said plurality of network access points ~~is~~ ~~arranged to~~ which receives said at least one global traffic constraint is arranged to ~~and~~ process the received global traffic constraint to determine a plurality of local constraint conditions by:

determining a local gap interval (Δt) to be imposed on said traffic by said respective network access point, said local gap interval (Δt) being dependent on <u>the rate of traffic received by said respective network access point and the number of lines over which said respective network access point receives traffic seeking admittance to said communications network</u> ~~said global traffic constraint~~;

determining an initial local gap interval (Δt$_0$) for said respective network access point which <u>varies randomly in length from zero to</u> ~~differs from~~ said determined local gap interval (Δt) of the respective network access point; ~~and~~

imposing said initial local gap interval (Δt$_0$) without waiting for traffic to be received at the respective network access point[[,]]<u>; and</u>

<u>imposing subsequently one or more of said local gap intervals (Δt) if said determined overload condition still exists at the network access controller,</u>

<u>wherein each of the subsequent gap intervals is imposed by the respective network access point allowing a first call to be admitted to the communications network and by then blocking all subsequent calls for the gap interval (Δt)</u>

~~wherein each initial local gap interval (Δt0) is determined independently by each respective one of said plurality of network access points in said adaptive overload control system to be between zero and the respective local gap interval (Δt), and~~

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~~wherein the initial gap interval varies in a random manner between said plurality~~

~~of said network access points offering traffic to said network access controller~~.

68. (Previously Presented) An adaptive overload control system as in claim 67, including a network access controller arranged to received traffic offered by a plurality of network access points arranged to provide said traffic with access to a communications network, the network access controller further comprising:

a traffic monitor for monitoring the aggregate offered traffic rate comprising the traffic offered by all of said plurality of network access points to said network access controller;

a processor arranged to determine from said aggregate traffic rate if an overload condition exists at the network access controller;

a processor arranged to generating at least one constraint derived from said monitored aggregate offered traffic rate; and

communication means to communicate said at least one constraint to each of said plurality of network access points.

69. (Previously Presented) An adaptive overload control system as in claim 67, including a network access point arranged to provide a network access controller with an offered traffic rate, and further comprising:

a receiver arranged to received constraint information from the network access controller; and

a processor arranged to process said received constraint information to determine one or more local constraints to be imposed on the traffic which limit the traffic offered by said network access point to the network access controller.